

# Chun-Hsiang Chan

ASSISTANT PROFESSOR | SPATIAL DATA SCIENTIST • PHD MS BSS

No. 200, Zhongbei Rd., Taoyuan 320314, Taiwan (Republic of China)

✉ d04228002@ntu.edu.tw

🏠 toodou.github.io

📧 toodou

🌐 Chun-Hsiang Chan

📺 Coding the World

*"I always aim to overcome my limitations."*

## Education

### National Taiwan University (NTU)

Taipei, Taiwan

PH.D. IN GEOGRAPHY

Sep. 2015 - Jul. 2021

- **GPA:** 4.12/4.3 (76)
- Applied spatiotemporal data analysis to unveil the global airline alliance market with 50+ million of flight schedule data.
- Leveraged worldwide flight schedule data with complex network analysis to characterize the aviation market structure of global airline alliances.

### Shih Chien University (USC)

Taipei, Taiwan

M.S., DEPARTMENT OF FOOD SCIENCE, NUTRITION, AND NUTRACEUTICAL BIOTECHNOLOGY

Sep. 2018 - 2020

- **GPA:** 4.0/4.0 (30)
- Revealed key physicochemical parameters of semi-gelatinized high amylose maize starch and quantified for the first time the mechanisms of slow-digesting and resistant starch during sonication by machine learning (ML) techniques.

### National Taiwan University (NTU)

Taipei, Taiwan

M.S., DEPARTMENT OF GEOGRAPHY

Jan. 2013 - 2015

- **GPA:** 3.75/4.3 (31)
- Identified seismic precursors with massive electromagnetic processing and frequency domain analysis to spatiotemporally predict the epicenter (24%) and occurrence time (68%) of seismic events one week before from 2013 to 2014 (magnitude > 4).

### National Taipei University of Education (NTUE)

Taipei, Taiwan

B.Soc.Sci., DEPARTMENT OF SOCIAL AND REGIONAL DEVELOPMENT

Sep. 2008 - 2012

- **GPA:** 3.79/4.3 (174)
- Determined debris-flow critical rainfall line for disaster prevention through ML techniques (FCGA, k-means clustering, and support vector machine) with 5 years of rainfall data and 21 geological types data.

## Experience

### Master Program in Intelligent Computing and Big Data, Chung Yuan Christian University

Taoyuan, Taiwan

ASSISTANT PROFESSOR

2022 - Present

- Teaching subjects: Probability and Statistics, Big Data Fundamentals and Application, Introduction to Natural Science and Artificial Intelligence, Capstone Project, Intro. to EECS Profession.
- Leverage graph neural network to characterize and refine the transportation structure in the urban area.
- Combine complex network analysis to characterize global heatwave events' spatiotemporal and network structure from long-term data.

### Taiwan Cybersecurity Foundry Company

Taipei, Taiwan

AI CONSULTANT

2022 - Present

- Develop and deploy multiple machine learning models to automatically extract highly suspicious network security events from real-time massive flow alert data, with an accuracy rate of 99%.
- Combined with multiple time series models and federated learning to automatically detect abnormal network traffic for enterprise security management and meet privacy protection standards.

## **Institute of Sociology, Academia Sinica**

*Taipei, Taiwan*

DATA SCIENTIST

2019 - Present

- Utilized complex analysis techniques to investigate the social network formulation through quantitative and qualitative approaches.
- Conducted spatiotemporal statistical analyses (SaTScan & LISA) to reveal the preferred locations of multi-religious landscapes with 400-year cultivation data in Taipei city.
- Applied Louvain community detection and ML techniques (PCA, clustering, and hierarchical clustering) to demystify the association between pilgrimage network and religious development history.

## **School of Journalism and Communication, The Chinese University of Hong Kong**

*Hong Kong, China*

DATA SCIENTIST / A JOINT BUSINESS PLANNING ON SOCIAL MEDIA MARKETING

2019 - Present

- Collected fine-dining brand's Facebook engagement data to demystify the pandemic impact on social media behavior (2019 to 2021).
- Applied ML techniques and time-series analysis to predict the reservation trend.

## **Department of Radiology, School of Medicine, Taipei Medical University**

*Taipei, Taiwan*

POSTDOCTORAL RESEARCH / DEPARTMENT OF RADIOLOGY, TAIPEI MUNICIPAL WANFANG HOSPITAL, TAIPEI MEDICAL

UNIVERSITY

2021 - 2022

- Evaluated the 3D trabecular microstructure parameters to reveal the relationship between areal BMD dual-energy X-ray Absorptiometry and volumetric BMD from QCT.
- Investigated the vertebral fracture assessment problems with a 2D plain-film radiograph and different 3D CT grading methods (conventional, consensus, and global search).
- Developed a 100% accuracy and rapid automated bone mineral density (BMD) report generator to improve efficiency for the report production.

## **Department of Geography, NTU**

*Taipei, Taiwan*

RESEARCH ASSISTANT & TEACHER ASSISTANT / GEOSPATIAL COMPUTATIONAL SCIENCE LABORATORY

2019 - 2021

- Timely estimated the global exposure risk mobile app for direct and transfer air passengers to meet WHO healthcare goals and traveler needs in the COVID-19 pandemic.
- Demystified the role of transfer activities in cross-province transmission after Wuhan city lockdown by web crawling 1+ million railway schedule data during the COVID-19 pandemic.
- Utilized survival analysis and community detection for H1N1 global disease transmission with 85+ million global flight schedules.

## **Department of Geography, NTU**

*Taipei, Taiwan*

RESEARCH ASSISTANT & TEACHER ASSISTANT / REMOTE SENSING AND SPATIAL KNOWLEDGE LABORATORY

2013 - 2021

- Designed an automated low-frequency electromagnetic signal processing and pattern recognition system.
- Applied ML techniques in seismic precursor analysis and automated vertical stratum structure recognition.

## **CyberSecurity Technology Institute, Institute for Information Industry (III)**

*Taipei, Taiwan*

DATA SCIENTIST ENGINEER / ANALYTICAL INTELLIGENCE SECTION, ARTIFICIAL INTELLIGENT RESEARCH AND

DEVELOPMENT CENTER

2017 - 2019

- Processed air pollution data to identify the spatiotemporal causal relationship between stationary emission sources and ambient air quality.
- Developed a real-time and open-source cybersecurity monitoring system with Elasticsearch, Logstash, and Kibana (ELK), which analyzed the suspicious packets.
- Implemented a generative adversarial network (GAN) model to detect malicious behaviors with a 250 GB malware dataset.

## **Department of Social and Regional Development, NTUE**

*Taipei, Taiwan*

RESEARCH ASSISTANT & TEACHER ASSISTANT / DEBRIS-FLOW DISASTER PREVENTION LABORATORY

2013 - 2016

- Leveraged social media advertising to promote crowd-sourcing debris-flow disaster platform and mobile app.
- Adopted several spatiotemporal hydrological analyses to timely characterize debris-flow disasters to informed experts and public users on a website and mobile app.

## **National Science and Technology Center for Disaster Reduction (NCDR)**

*Taipei, Taiwan*

RESEARCH INTERN / SLOPELAND DIVISION

2011 - 2011

- Conducted spatial statistical methods to reveal the hidden debris flow and landslide areas from massive high-resolution remote-sensing images.

## **Department of Chemistry, NTU**

*Taipei, Taiwan*

PROJECT STUDENT / JTC ORGANOMETALLIC RESEARCH LABORATORY

2010 - 2012

- Synthesized and characterized - from ligands to complexes [(o-C<sub>5</sub>H<sub>4</sub>N)C(CH<sub>3</sub>)(R<sub>1</sub>)NR<sub>2</sub>]AlMe<sub>2</sub>
- Characterized organometallic precursors by NMR techniques and X-Ray crystallography showing distorted tetrahedral structures.
- Catalyzed ring-opening polymerization of  $\epsilon$ -caprolactone with the activities and the *M<sub>n</sub>* values.
- Displayed the electronic and steric properties of distinct ligand influences toward molecular weight and PDI values.

## Invited Talks

Nov., 2022	<b>Invited Speaker</b> , The Importance of Spatial Analysis in Epidemic Prevention Policy	Chinese Culture University
Oct., 2022	<b>Invited Speaker</b> , Trial & Error Building an Interdisciplinary Life - Beyond Your Limits	National Taiwan University of Education
Nov., 2021	<b>Invited Speaker</b> , The Roles of Spatial Analysis During the COVID-19 Pandemic	Chinese Culture University
Jan., 2020	<b>Invited Speaker</b> , Characterizing Major Airline Alliances: A Network Analysis	Kyoto University
Jan., 2020	<b>Invited Speaker</b> , A Social Network Approach to Detect the Characteristics of Fake News	Institute for Information Industry
Feb., 2019	<b>Keynote Speaker</b> , 2019 Present Sociology under Big Data	Academia Sinica
Sep., 2014	<b>Keynote Speaker</b> , Define an Expectation for Your University Life	NTUE
Apr., 2014	<b>Keynote Speaker</b> , 2014 Disaster Prevention and Warning Application in APP Competition	TICC, Taipei

## Thesis

2021	<b>Ph.D. Dissertation</b> , Characterizing Major Airline Alliances: A Network Analysis. <i>Department of Geography, National Taiwan University</i>	Taipei, Taiwan
2020	<b>Master Thesis</b> , Effects of Ultrasonic Treatment on Physical Properties and <i>in vitro</i> Digestibility of High Amylose Maize Starch. <i>Department of Food Science, Nutrition, and Nutraceutical Biotechnology, Shih Chien University</i>	Taipei, Taiwan
2015	<b>Master Thesis</b> , Applying Ultra Low Frequency Remote Sensing Techniques in the Earthquake Precursor Analysis—Using Taiwan as an Example. <i>Department of Geography, National Taiwan University</i>	Taipei, Taiwan
2011	<b>Bachelor Thesis</b> , Ring-Opening Polymerization of $\epsilon$ -caprolactone Using Organoaluminum Complexes Bearing Amido-pyridine Bidentate Ligand. <i>Department of Chemistry, National Taiwan University</i>	Taipei, Taiwan
2011	<b>Bachelor Thesis</b> , Establishing Debris-Flow Cluster and Modified Critical Rainfall Line. <i>Department of Social and Regional Development, National Taipei University of Education</i>	Taipei, Taiwan

## Academic Service

SCI	<b>Reviewer</b> , International Journal of Health Geographics	Journal Article
SCI	<b>Reviewer</b> , Plos One	Journal Article
EI	<b>Reviewer</b> , International Journal of Web Based Communities	Journal Article

## Honors & Awards

### RESEARCH

2020	<b>The Second Prize</b> , 2020 Canada - Taiwan Bilateral Conference on Nutrition, Health, Benefit and Innovative Processing of Whole Grains and Pulses	Taichung, Taiwan
2019	<b>The Third Prize</b> , 2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)	Taichung, Taiwan
2018	<b>Young Scientist Award</b> , 2nd CiC Students' Workshop: Driving Sustainable Development	Tsukuba, Japan
2014	<b>The First Prize</b> , The 15th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	Zhangjiajie, China
2013	<b>The Second Prize</b> , The 14th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	Kunming, China
2011	<b>The First Prize</b> , The 12th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	Nanchang, China
2011	<b>Selected (Highest)</b> , Undergraduate Student Thesis Presentation in Class of 2012	NTUE, Taiwan

### COMPETITION

2014	<b>Third Prize</b> , 2014 Disaster Prevention and Warning Application in APP Competition	Taipei, Taiwan
------	--	----------------

## SCHOLARSHIP AND GRANTS

2021	<b>Journal Paper Publication Grants for Doctoral Students at Dept. of Geography,</b>	<i>NTU, Taiwan</i>
2020	<b>NetSci-X 2020 Travel Grants,</b> NetSci-X 2020, Waseda University	<i>Japan</i>
2020	<b>College of Science Travel Grants for International Conference,</b> College of Science	<i>NTU, Taiwan</i>
2020	<b>Honorary Membership,</b> The Phi Tau Phi Scholastic Honor Society of the Republic of China	<i>Taipei, Taiwan</i>
2020	<b>Academic Excellence Award,</b> Department of Food Science, Nutrition, and Nutraceutical Biotechnology	<i>USC, Taiwan</i>
2019-2020	<b>Grant for Ph.D. Candidates in the Humanities and Social Sciences to Write Doctoral Thesis,</b>	<i>MOST, Taiwan</i>
2019	<b>College of Science Travel Grants for International Conference,</b> College of Science	<i>NTU, Taiwan</i>
2018-2019	<b>Presidential Award,</b> Department of Food Science, Nutrition, and Nutraceutical Biotechnology(Fall'18, Spring'19)	<i>USC, Taiwan</i>
2018	<b>Travel Grants for 2018 Tsukuba Global Science Week,</b> NTU and Tsukuba University	<i>Taiwan &amp; Japan</i>
2017-2018	<b>Graduate Student Representative of College of Science,</b> College of Science	<i>NTU, Taiwan</i>
2014	<b>Budget Supplement for Graduated Student Attending International Conference,</b>	<i>MOST, Taiwan</i>
2010-2011	<b>Presidential Award,</b> Department of Social and Regional Development (Spring'10, Fall'11)	<i>NTUE, Taiwan</i>

## Teaching Experience

### ASSIST. PROF. | CHUNG YUAN CHRISTIAN UNIVERSITY

2022	<b>Probability &amp; Statistics 1,</b> Undergraduate Program in Applied Artificial Intelligence (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Introduction to Natural Science and Artificial Intelligence,</b> Department of Electronic Engineering (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Big Data Fundamentals and Application,</b> Master Program in Intelligent Computing and Big Data (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Intro. to EECS Profession,</b> BS in Electrical Engineering and Information Science (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Capstone Project II,</b> Undergraduate Program in Applied Artificial Intelligence (Fall'22)	<i>College of EE &amp; IS</i>

### ADJUNCT ASSIST. PROF. | TAMKANG UNIVERSITY

2021	<b>Advanced C Programming and It's Applications,</b> Department of Geography (Fall'21)	<i>College of Engineering</i>
------	--	-------------------------------

### TA | NATIONAL TAIWAN UNIVERSITY

2021	<b>Network Data Analysis and Models,</b> Department of Geography (Spring'21)	<i>College of Science</i>
2018	<b>Computer Programming,</b> Department of Geography (Spring'18)	<i>College of Science</i>
2017-2018	<b>Russian (I),</b> Department of Foreign Languages and Literatures (Fall'17 to Spring'18)	<i>College of Liberal Arts</i>
2017-2018	<b>Russian (III),</b> Department of Foreign Languages and Literatures (Fall'17 to Spring'18)	<i>College of Liberal Arts</i>
2017	<b>Russian (II),</b> Department of Foreign Languages and Literatures (Spring'17)	<i>College of Liberal Arts</i>
2017	<b>Russian Listening Training,</b> Department of Foreign Languages and Literatures (Spring'17)	<i>College of Liberal Arts</i>
2016	<b>Medical Database Systems,</b> Institute of Biomedical Engineering (Fall'16)	<i>College of Medicine</i>
2014	<b>Special Topics in Spatial Information,</b> Department of Geography (Spring'14)	<i>College of Science</i>
2014	<b>Remotely Sensed Land Monitoring,</b> Department of Geography (Spring'14)	<i>College of Science</i>
2013	<b>Spatial Information Research Methods,</b> Department of Geography (Fall'13)	<i>College of Science</i>
2013	<b>Applying Spatial Information in Tourism Recreation,</b> Department of Geography (Fall'13)	<i>College of Science</i>

### TA | NATIONAL TAIPEI UNIVERSITY OF EDUCATION

2015 & 2016	<b>Geographic Information System,</b> Department of Social and Regional Development (Spring'15 & '16)	<i>College of Education</i>
-------------	---	-----------------------------

### TA | NATIONAL TAIWAN NORMAL UNIVERSITY

2018	<b>Data Mining,</b> Department of Computer Science and Information Engineering (Fall'18)	<i>College of Science</i>
------	--	---------------------------

## Certifications, Skills & Interests

---

### LANGUAGES

**Chinese:** Native; **English:** Fluent; **Russian:** Conversant; **Japanese:** Beginning; **Spanish:** Beginning

### CERTIFICATIONS

Emergency Medical Technician: Level 1 (EMT1)

Certified Scanning Electron Microscopy Operator | Certified X-ray Diffraction Operator

Teaching Certificate for Elementary School | HACCP Quality Control (Primary & Advanced)

Tour Guide of General Examination and Tour Leader of General Examination

TBSA Certificate of Business Planning Proficiency (Elementary)

National Volleyball Referee (C) | Certified lifeguard and Certified Swimming Coach (Level B & C)

### TECHNICAL SKILLS

**Computer Science:** Python, Matlab, R, C, C#, JavaScript, JQuery, jQueryUI, Android Development, HTML, MySQL, Nodejs, AngularJS, MongoDB, Elasticsearch, Spark, Facebook APIs and Twitter APIs

**Geography:** GIS (ArcGIS, QGIS, Super GIS), Spatial Statistics, Spatial Database, Complex Network Analysis, Gephi

**Physics:** Signal Processing (in time sequence and frequency) and Electromagnetic Analysis

**Food Chemistry:** Starch Science, Resistant Starch, Slowly Digestible Starch, *in vitro* Digestibility, SEM, XRD and HPSEC

**Chemistry:** Organometallic synthesis, NMR, IR, HPLC, ESI-MASS and pH meter

**Design:** Illustrator, Photoshop, Dreamweaver and Google SketchUp

## Research Projects

---

### MINISTRY OF SCIENCE AND TECHNOLOGY

2021-2022	<b>PostDoc</b> , Case control longitudinal study of Romosozumab vs. Denosozumab treatment for osteoporotic women in assessment of HRCT-based vertebral structural changes	Participant
2019-2021	<b>RA/ PM</b> , An Early Warning Framework for International Spread of Infectious Diseases -Assessing disease importation risk in Taiwan and East Asian regions	Participant
2019-2020	<b>PI/ Ph.D. Candidate</b> , Grant for Ph.D. Candidates in the Humanities and Social Sciences to Write Doctoral Thesis	Principal Investigator
2016-2017	<b>RA</b> , SlopeLand Disaster Risk Estimation for Mountain Region Community and Revegetation - Sediment Disaster Risk Evaluation and Adaptation Study in Isolated Community(I)	Participant
2015-2016	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (III)	Participant
2015-2016	<b>RA</b> , SlopeLand Disaster Prevention System for Local Community - Combine Rainfall Information for Debris-flow Potential Region and Application (I)	Participant
2014-2015	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (II)	Participant
2013-2014	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (I)	Participant

### NATIONAL TAIPEI UNIVERSITY OF EDUCATION

2010	<b>RA</b> , Establishment and Promotion of Virtual Reality Education Platform for Ocean Environment Education	Participant
------	---	-------------

### MINISTRY OF EDUCATION

2016	<b>PM</b> , The 14th International Senior High Schools Intelligent Ironman Creativity Contest	Participant
2013	<b>PM</b> , The 11th International Senior High Schools Intelligent Ironman Creativity Contest	Participant
2012	<b>PM</b> , The 10th International Senior High Schools Intelligent Ironman Creativity Contest	Participant

## Selected Publications

### Peer-Reviewed Journal Papers

- [1] **Chun-Hsiang Chan**, Wen-Chi Huang, Yi-Chien Lu, Hsing-Fen Hsiao, and Wing P. Chan (2021). BatchBMD as an Efficient and Accurate Dual-Energy X-ray Absorptiometry Report Generator. *Diagnostics*. Vol.11(12), 2403. <https://doi.org/10.3390/diagnostics11122403> (SCI IF: 3.706; Q2 45/167 in Medicine, General, and Internal)
- [2] **Chun-Hsiang Chan**, Tzai-Hung Wen (2021). Revisiting the Effects of High-speed Railway Transfers in the Early COVID-19 Cross-province Transmission in Mainland China. *International Journal of Environmental Research and Public Health*. Vol.18(12), 6394. <https://doi.org/10.3390/ijerph18126394> (SSCI IF: 3.390; Q1 32/171 in Public, Environmental & Occupational Health)
- [3] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (2021). The Effects of Ultrasonic Treatment on Physicochemical Properties and *in vitro* Digestibility of Semigelatinized High Amylose Maize Starch. *Food Hydrocolloids*. Vol.119, 106831. <https://doi.org/10.1016/j.foodhyd.2021.106831> (SCI IF: 9.147; Q1 5/74 in Applied Chemistry; Q1 5/144 in Food Science & Technology)
- [4] Wei-Hsian Chi, Fei-Ying Kuo, Chang-Hui Chi, Shi-Chiang Lin, **Chun-Hsiang Chan** (2021). Spatial-temporal Analysis of Pilgrimage Network of Mazu-temples in Yunlin and Chiayi County: A Study on Geographical Distribution of Pilgrimage Group. *Journal of Geographical Science*. Vol.98, 45-82. [https://doi.org/10.6161/jgs.202104\\_\(98\).0003](https://doi.org/10.6161/jgs.202104_(98).0003) (TSSCI)
- [5] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu, Tzai-Hung Wen (2021). Spatially Characterizing Major Airline Alliances: A Network Analysis. *ISPRS International Journal of Geo-Information (IJGI)*. Vol.10(1), 38. <https://doi.org/10.3390/ijgi10010038> (SCI IF: 2.899; Q2 23/50 in Geography; Q2 76/162 in Computer Science)
- [6] Yuan-Fang Tsai, **Chun-Hsiang Chan**, Keng-Han Lin, Wen-Ray Su, Jinn-Chyi Chen (2017, Jul). New debris flow critical rainfall line setting via cluster analysis and support vector machine after the Chi-Chi huge earthquake. *2017 13th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD) (EI)*. 970-975.

### Peer-Reviewed Conference Papers

- [1] Wing P. Chan, **Chun-Hsiang Chan**, Yi-Chien Lu, Shu-Ning Yu, Yi-Zun Lai (2023, Apr) Trends of Vertebral Height Reduction in Older Asians: Automated Vertebral Height Measurements on CT Images. *2023 ARRS Annual Meeting*, Honolulu, United States.
- [2] Tzu-Hsuan Chuang, **Chun-Hsiang Chan**, Yi-Yuan Shao (2022, Oct) Maximize Resistant Starch from Waxy Maize Starch: An Integration of Debranching and Storage Temperature. *8th International Conference on International Dietary Fibre 2022*, Belgium.
- [3] **Chun-Hsiang Chan**, Yi-Chien Lu, Hao-Yang Wu, Wing P. Chan (2022, Sep) Temporal Effects of Romosozumab on Vertebral Trabecular Quality: A Pilot Case Report. *American Society for Bone and Mineral Research 2022 Annual Meeting*, Austin, Texas, United States.
- [4] **Chun-Hsiang Chan**, Shih-Chia Wu (Jul, 2022) The impact of marketing communication strategies on online consumer-brand community engagement during COVID-19 pandemic. *29th Annual BledCom Conference*, Bled, Slovenia.
- [5] **Chun-Hsiang Chan**, Wing P. Chan (Mar, 2022) The Hollowed Trabecular Phenomenon —Demystifying the Trabecular Aging Process in Healthy Older Adults Using Multidimensional Approaches. *WCO-IOF-ESCEO Virtual Congress 2022*, Berlin, Germany.
- [6] **Chun-Hsiang Chan**, Tzai-Hung Wen (Oct, 2021). Timely exposure risk at airports app for air travelers—using the COVID-19 pandemic as an example. *2021 Asian Seminar in Regional Science —Regional Science in Post-Pandemic Era*, Taichung, Taiwan.
- [7] **Chun-Hsiang Chan**, Shih-Chia Wu (Jul, 2021) Reversible or Irreversible User Engagement Behavior Changes During COVID-19 Pandemic: a Case Study of a Top Restaurant Brand in Taiwan. *28th Annual BledCom Conference*, Bled, Slovenia.
- [8] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (Sep, 2020) Ultrasonic Treatment on Starch Granule Morphology and Physicochemical Properties of High Amylose Maize Starch. *2020 Canada - Taiwan Bilateral Conference on Nutrition, Health, Benefit and Innovative Processing of Whole Grains and Pulses*, Taichung, Taiwan.
- [9] 吳優、詹竣翔、邵貽沅 (2020 年 6 月) 探討超音波處理對半糊化之糯性玉米澱粉物性和消化性的影響。台灣農業化學會第 58 次會員大會。臺北，臺灣。
- [10] 吳優、詹竣翔、邵貽沅 (2020 年 6 月) 探討去支鏈、超音波和回凝處理對澱粉物性和消化性的影響。台灣農業化學會第 58 次會員大會。臺北，臺灣。
- [11] **Chun-Hsiang Chan**, Tzai-Hung Wen, Tzu-How Chu, Jiun-Huei Protty (Jan, 2020) Characterizing the Roles of Nodes in the Global Airline Alliance Network: Considering Structure Equivalence and Geographic Proximity. *NetSci-X 2020*, Tokyo, Japan.
- [12] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (Sep, 2019) Effect of Pregelatinized Temperature on the Morphology and Resistant Starch of High Amylose Corn Starch *2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)*, Taichung, Taiwan.
- [13] Ri-Gui Wu, **Chun-Hsiang Chan**, Yi-Yuan Shao (Sep, 2019) Quality of Ningbo Rice Cake with Debranched Starch. *2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)*, Taichung, Taiwan.
- [14] **Chun-Hsiang Chan**, Tzu-How Chu, Jehn-Yih Juang, Ching-Hao Mao, Shin-Ying Huang (Apr, 2019) Causal Relationship on Sulfur Dioxide Between Stationary Emission Source and Ambient Air Quality: a Data-driven Approach. *EGU General Assembly 2019*, Vienna, Austria.
- [15] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Apr, 2017) Statistical Analysis of Very Low Frequency Electromagnetic Signal for Earthquake Precursor Anomalies. *EGU General Assembly 2017*, Vienna, Austria.
- [16] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yuan-Ning Chan (Jul, 2016) To Establish an Integrative Information System for Debris-Flow Disaster. *Asian Conference on Civil, Material and Environmental Sciences*, Hokkaido, Japan.
- [17] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yi-Ting Huang, Jie-Ming Guan, Cheng-Hsin Chang (Jun, 2016) Establishing Optimal YouBike Route Planning for Cuisine in Smart Phone Application. *Hong Kong International Conference on Social Science 2016*, Hong Kong.
- [18] 蔡元芳、詹媛甯、周煥傑、黃竹頤、林庚翰、詹竣翔 (2015 年 10 月)。跨平台整合之防災即時資訊網建置。第十九屆海峽兩岸水利科技交流研討會。上海，中國。
- [19] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Jun, 2015) Earthquake Precursor Detection for Epicenter Spatial Analysis and Estimation. *International Conference on Earth Observations and Societal Impacts 2015 (ICEO&SI 2015)*, Kaohsiung, Taiwan.
- [20] Wen-Xiang Wang, Lan-Xiang Wang, Ting Jin, Li-Ting An, Hui-Ying Wang, Tzu-How Chu, **Chun-Hsiang Chan**, Rei-Yuan Wang (Jun, 2015) The Earthquake Precursor Detecting Method Applied in the 2011 Tohoku Earthquake. *International Workshop on Earthquake Preparation Process 2015 - Observation, Validation, Modeling, Forecasting - (IWEP2)*, Chiba, Japan.
- [21] Yuan-Fan Tsai, **Chun-Hsiang Chan** (Jun, 2015) To Establish an Interactional Real-Time Debris-Flow Disaster Information System



- and Extension. *6th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment (DFHM6)*, Tsukuba, Japan.
- [22] 管潔明、黃翊婷、蔡元芳、詹竣翔 (2015 年 5 月) 微笑單車安全路線規劃應用於智慧型手持裝置美食 APP。第 19 屆臺灣地理國際學術研討會。臺北，臺灣。
- [23] 林庚翰、謝青恩、吳昊宸、蔡元芳、詹竣翔 (2015 年 5 月) MFAs 慢跑社群手持裝置 APP 之開發。第 19 屆臺灣地理國際學術研討會。臺北，臺灣。
- [24] 王瑞麟、蔡元芳、詹竣翔 (2015 年 5 月) 自行車停車空間規劃模式之建置-以台北市大安區為例。第 19 屆臺灣地理國際學術研討會。臺北，臺灣。
- [25] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Chu-Yi Huang, Huan-Chieh Chou (Apr, 2015) Crowdsourcing Oriented Ontology Applies in Instant Debris-flow Disaster Information Platform in Web and Smart Phone Application. *EGU General Assembly 2015*, Vienna, Austria.
- [26] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu, Ruei-Yuan Wang, Yi-Shiang Shiu (Jul, 2014) Establishing VLF Electromagnetic Monitoring System for Earthquake Precursors Analysis and Application. *The 15th Crossstrait Symposium on Environment, Resource and Ecological Conservation*, Zhangjiajie, China.
- [27] Tzu-How Chu, Ruei-Yuan Wang, **Chun-Hsiang Chan**, Yi-Shiang Shiu (May, 2014) The Study on the Prediction of Earthquake Precursors in Taiwan by Using the Monitoring Systems of Low-Frequency Electromagnetic Wave. *The 9th Taipei International Digital Earth Symposium*, Taipei, Taiwan.
- [28] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Apr, 2014) VLF Electromagnetic Signal Analysis in Seismic Epicenter Application. *2014 Association of American Geographers' Annual Meeting*, Tampa, Florida, United States.
- [29] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yu-Qian Zhang, Wan-Jou Lu, Chi-Chen Yeh (Mar, 2014) Taipei City Marketing Application in Smart Phone Application Operation and Design. *The 2nd International Symposium on Education, Psychology, Society and Tourism (ISEPST 2014)*, Tokyo, Japan.
- [30] **Chun-Hsiang Chan**, Yuan-Fan Tsai (Jul, 2013) Allocating reforestation areas for variation of soil erosion maximization: MCLP formulation and pre-emptive goal programming. *The 14th Cross-strait Symposium on Environment, Resource and Ecological Conservation*, Kunming, Yunnan, China.
- [31] Yuan-Fan Tsai, Yu-Lun Cheng, **Chun-Hsiang Chan** (Jun, 2012) Setting up the Critical Rainfall Line For Debris-flow Via Support Vector Machines. *The International Conference on Earth Observations and Societal Impacts 2012 (ICEO-SI 2012)*, Taipei, Taiwan.
- [32] **Chun-Hsiang Chan**, Yuan-Fan Tsai (Jul, 2011) Establishing Debris-flow Cluster and Modified Critical Line. *The 12th Cross-strait Symposium on Environment, Resource and Ecological Conservation*, Nanchang, Jiangxi, China.

#### Books, Reports, and News

- [1] [Book] 金威澄、李正哲、李冠儒、詹竣翔、江承頤、曾毓媛、王立宏、吳連哲、廖德融、劉柏賢、沈祥茵 (2021 年 11 月 17 日) 當代英雄從台灣出發-台大學生的俄羅斯與後蘇聯行旅 (Герои нашего времени - С Тайваня в Россию и постсоветское пространство)。中文：第 42-45 頁 & 第 138-143 頁。俄文：第 25-28 頁 & 第 87-91 頁。臺北市：櫻桃園文化出版有限公司。
- [2] [Article] 詹竣翔 (2021 年 7 月 2 日) 臺大地理系 2021 年楊楠子人文學術講座：人口動態的前沿研究暨地理職涯發展的交流。國立臺灣大學理學院院刊第 48 期：國際交流。臺北市：國立臺灣大學理學院。https://bit.ly/3wsGSOH
- [3] [Report] 詹竣翔、邵貽沅 (2021 年 4 月 15 日) 參加 2021 年 ICBC 國際研討會-線上會議報告。第 7-11 頁臺北市：中華穀類食品工業技術研究所。
- [4] [News] 溫在弘、詹竣翔 (2020 年 4 月 27 日) 10 大關鍵圖表掌握新冠肺炎產經衝擊。天下雜誌。https://bit.ly/2PckaQF
- [5] [News] 溫在弘、詹竣翔、郭飛鷹 (2020 年 4 月 6 日) 防堵疫情擴散台大研究團隊：生活圈防疫勝過封城。東森新聞。https://bit.ly/35bTrWA
- [6] [News] 溫在弘、詹竣翔 (2020 年 3 月 5 日) 【口罩下的人 #02】封城能擋疫情？台大教授算高鐵班次發現：周邊城市確診人數是其他城市的 1.5 倍。未來城市 | 天下雜誌。https://bit.ly/33ym7bK
- [7] [News] 朱子豪、詹竣翔 (2015 年 1 月 20 日) 測「超低頻電磁波」可預測地震？民視新聞。https://bit.ly/3HHjzXg